

The Approaching End of the Age – Part IV. Section III. Soli-Lunar Cycles, And Their Relation to the Chronology of History. Chapter III.



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CYCLICAL CHARACTER OF THE PROPHETIC PERIODS OF DANIEL AND THE APOCALYPSE.

Discoveries of M. De Cheseaux.

THE perplexities and difficulties which encumber the attempt to adapt *brief* periods of time to both solar and lunar movements, as in the calendar, disappear, directly it is a question of *longer* intervals. (I think it should say "...directly in the question of longer intervals.")

Short periods have to be artificially harmonized, longer ones harmonize themselves. There exist various times and seasons, which are naturally measurable both by solar years, and lunar months, without remainder, or with remainders so small as to be unimportant.

Such periods are therefore SOLI-LUNAR CYCLES, and we shall henceforth speak of them as such. They harmonize with more or less exactness solar and lunar revolutions, and they may be regarded as divinely appointed units for the measurement of long periods of time, units of precisely the same *character* as the day, month, and year, (that is created by solar, lunar, and terrestrial revolutions) but of larger *dimensions*. They are therefore periods distinctly marked off as such, on the same principles as those on which our calendar is based, that is they are natural measures of time, furnished by the Creator Himself for human use.

The lunar cycle of nineteen years employed by the Greeks is one of these periods, and the ancient cycle of Calippus is another. Their discovery has always been an object with astronomers, as their practical utility is considerable. But it was exceedingly difficult to find cycles of any tolerable accuracy, especially cycles combining and harmonizing the day, and the month, with the year.

About the middle of last century (the 18th century) a remarkable fact was

discovered by a Swiss astronomer M. de Cheseaux, a fact which is full of the deepest interest to the Christian mind, and which has never received either at the hands of the Church or of the world, the attention that it merits.

The prophetic periods of 1260 years and 2300 years, assigned in the Book of Daniel and in the Apocalypse, as the duration of certain predicted events, *are such soli-lunar cycles*, cycles of remarkable perfection and accuracy, but whose existence was entirely unknown to astronomers, until, guided by sacred Scripture, M. de Cheseaux discovered and demonstrated them to be such. And further, the difference between these two periods, which is 1040 years, *is the largest accurate soli-lunar cycle known.*

The importance of this discovery, and the fact that it is exceedingly little known, must be our apology for entering into a somewhat full account of the matter here. It is besides vital to our own more immediate subject, and was indeed the means of leading us to the present investigation.

M. de Cheseaux's book is out of print, difficult to procure and even to consult. A copy of it exists in the library of the University of Lausanne, and another in the British Museum. It is entitled "Mémoires posthumes de M. de Cheseaux" and was edited and published by his sons, in 1754. It contains "Remarques historiques, chronologiques, et astronomiques, sur quelques endroits du livre de Daniel." The calculations of the astronomical part, were submitted to Messrs. Mairan and Cassini, celebrated astronomers of the Royal Academy of Sciences at Paris, neither of whom called in question the accuracy of M. de Cheseaux's principles, or the correctness of his results. M. Mairan, after having carefully read his essay, said that "it was impossible to doubt the facts and discoveries it contained; but that he could not conceive *how* or *why* they had come to be embodied so distinctly in the Holy Scriptures." M. Cassini wrote, after having read the treatise and worked the problems, that the methods of calculating the solar and lunar positions and movements, which M. de Cheseaux had deduced from the cycles of the Book of Daniel, were most clear, and perfectly consistent with the most exact astronomy;" he wished the essay to be read before the Academy,

M. de Cheseaux was engaged in some chronological researches, and in order to fix with certainty the date of the Crucifixion, he was led to examine certain parts of Scripture, and especially the Book of Daniel. The first portion of his essay is purely chronological, and unimportant to our subject, we may say, however, that he clearly perceived that the "time times and a half" of Dan. vii. meant a period of 1260 years. "The importance of this conclusion and of some of the foregoing principles," he adds, "will be perceived, when we show how it led to a discovery of the singular relation which exists between this period of Daniel, and the facts of astronomy. However strange it may seem, I can positively deduce from the periods of Daniel, as accurately as by the best astronomical methods, and even more so, the five elements of the solar theory."

He goes on to explain what a cycle is: "a period which brings into harmony different celestial revolutions, containing a certain definite number of each, without remainder or fraction," and he shows that there are four different kinds of cycles connected with the sun, moon, and earth,

1. Those harmonizing the solar *day* and *year*.
2. Those harmonizing the solar *year* and lunar *month*.
3. Those harmonizing the solar *day* and lunar *month*.
4. Those harmonizing all three, day, month, and year.

M. de Cheseaux adds, "the discovery of such cycles has always been a great object with astronomers and chronologists. They have considered it so difficult a matter, that they have almost laid it down as a principle that it is impossible, at any rate as regards those of the fourth class. Till now, the discovery of a cycle of this kind has been to astronomers,—like perpetual motion to mechanics,—a sort of philosopher's stone. Anxious to settle whether the thing were really impossible, I began some time ago to try for a cycle of the second kind."

M. de Cheseaux then describes the process by which he was led to the discovery that 315 years is such a soli-lunar cycle, *ten times more exact* than the nineteen years Metonic cycle in use by the ancients; the sun and moon coming after a lapse of that period, to within three hours twenty-four seconds of absolute agreement: and he proceeds,—

"I had no sooner discovered this cycle, than I observed that it was a *quarter of the 1260 years of Daniel, and the Apocalypse*, and that consequently, *this period is itself a soli-lunar cycle*," after which the sun and moon return, within less than half a degree, to the same point of the ecliptic precisely, and that within an hour of each other.*

* That is, after 460,205 days 6h, the sun and moon come into conjunction, and in 460,205 days 7h. 23 m. the sun has returned to its exact starting point on the ecliptic—a period of 1260 solar years. (According to more accurate modern measures 1260 years are about three hours less.)

"The relation of *this* period, assigned by the Holy Spirit as the limit of certain political events, to the most notable movements of the heavenly bodies, made me think it might be the same with the 2300 years. By the aid of the astronomic tables I examined this latter, and found that at the end of 2300 Gregorian years, minus six hours fourteen seconds, the sun and the moon return to within half a degree of the place from which they started, and that an hour later the sun has reached its exact starting point on the ecliptic: whence it follows that the prophetic period of 2300 years, is a cyclical period (also remarkable for the number of its aliquot (fractional) parts, and for containing a complete number of cycles) and *one so perfect, that though it is thirty times longer than the celebrated cycle of Calippus, it has an error of only thirteen hours, a seventeenth part of the error of that ancient cycle*.

"The exact similarity of the error of these two cycles of 1260 and 2300 years, made me soon conclude that the difference between them, 1040 years, ought to be a perfect cycle, free from all error; and all the more remarkable as uniting the three kinds of cycles, and furnishing consequently a cycle of that *fourth kind*, so long sought in vain, and finally concluded to be chimerical (existing only in the imagination), impossible to find.

"On examination of this period of 1040 years by the best modern astronomic tables I found that it was even so. Its error is absolutely imperceptible, in

so long a period, and may indeed be accounted for by errors in the tables themselves, owing to the inaccuracy of some of the ancient observations on which they are founded.

"This period of 1040 years, indicated indirectly by the Holy Ghost, *is a cycle at once solar, lunar, and diurnal or terrestrial of the most perfect accuracy.* I subsequently discovered two singular confirmations of this fact, which I will explain presently, when I have adduced all my purely astronomic proofs; may I in the meantime be permitted to give to this new cycle, the name of THE DANIEL CYCLE."

M. de Cheseaux then goes into full astronomic detail, of a kind that would fail to interest our readers, though proving the very remarkable nature of this cycle: and he subsequently continues, "As I before said, a cycle of this kind had long been sought in vain; no astronomer or chronologist, had been able to light upon one for nineteen centuries; and yet for two thousand three hundred years, there it has been, written in characters legible enough, in the Book of Daniel: legible, that is, to him who was willing to take the trouble of comparing the great prophetic periods, with the movements of the heavenly bodies; in other words, to him, *who compared the book of nature with the book of revelation.*"

"The slightest error, even of a few seconds, in the determination of the true length of the solar year, would remove altogether from these numbers, their cyclical character. Only the perfection of modern astronomical instruments in fact, can demonstrate it at all. So that we have the problem, How did Daniel, or the author of the Book of Daniel, whoever he was (if, as some assert, the prophecy is of a later date than Daniel), light upon these undiscoverable and undiscovered, yet excessively accurate celestial cycles, at a time when there were no instruments in existence capable of measuring solar revolutions with sufficient accuracy, to reveal the cyclical character of the periods?"

M. de Cheseaux adds, "I must close with one observation. For many ages the Book of Daniel, and especially these passages of it, have been quoted and commented on by numerous and varied authors, so that it is impossible for a moment to call in question their antiquity. Who can have taught their author the marvellous relation of the periods he selected with soli-lunar revolutions? Is it possible, considering all these points, to fail to recognise in the Author of the Book of Daniel, the Creator of the heavens and all their hosts, of the earth and the things that are therein?"

In a subsequent portion of his dissertation, M. de Cheseaux shows that not only can the five *solar* elements be deduced from the data in Daniel, but also the *lunar*. He compared his theoretic results with the observations recorded by the ancient astronomers Hipparchus and Ptolemy. Calculating forward first, he finds that the mean new moon of the vernal equinox of A.D. 1879 will, at Alexandria in Egypt, occur at 11.43 1/2 p.m. on the 10th of March (O.S.). He then applies this cycle of 1040 years, and reckons backwards. Two such cycles, equal to 2080 years, from the above date, carry back to 11.43 1/2 p.m. of March 26, B.C. 202 (*i.e.*, sixteen days later than March 10, reckoning by Julian calendar).

Now according to the tables of Hipparchus and Ptolemy the new moon of the vernal equinox that year, *did* at Alexandria fall on the 26th of March, at 11.39 p.m., not quite five minutes earlier than, by the cyclical calculation, it should have fallen! M. de Cheseaux adds, "I leave it to others to judge whether a slight difference such as this, may not well be attributed to the inevitable errors of the best ancient observations."

In his second dissertation this astronomer deduces the true size and figure of the earth from these same cycles, and works by means of them some thirty or forty elaborate astronomical and geographical problems.

Such were M. de Cheseaux's discoveries; and they are of the deepest interest and importance, as manifesting, in a new light, the wisdom and glory of God in connection with His Holy Word. That the ancient prophet Daniel twenty-five centuries ago, and "the disciple whom Jesus loved" eighteen centuries ago, should both have incorporated in their mysterious books of symbolic prophecy, as the chronological limits of certain most important events, periods of time, which the accurate researches of modern science have proved to be cycles formed by vast, complex, long-enduring movements of the heavenly bodies, seems a marvellous fact, a fact to be accounted for only by the Divine inspiration under which these holy men of old wrote.

For it is certain, and none can dispute it, that these periods are accurate celestial cycles: it is equally certain, and few will be inclined to question it, that neither Daniel, nor John, the fisherman of the Sea of Galilee, were able to calculate these cycles, or were even aware of their existence. Had they been in intercourse with the first astronomers of their day, or even had they been themselves astronomers of the highest attainments, it would have been impossible for them in the then existing state of astronomic science, to have observed the cyclical character of these periods. There was no such exact knowledge of either the true length of the solar year, or lunar month, as would have made the discovery of these cycles *possible*. In Daniel's day even the Metonic or lunar cycle was unknown, and these larger but similar cycles, were as a matter of fact, discovered only last century.

It was therefore certainly not as moved by their own intelligence, that the sacred writers selected these periods; and if they were not moved by Divine inspiration, how is the fact of their use of them to be accounted for? Could it be by chance—by accident—that to certain supremely important series of events, were assigned as the period of their duration, these cyclical periods?

Such an explanation of the fact, would be improbable to the last degree! Nothing but an unwillingness to admit the miracle of inspiration, could lead to its being suggested as an alternative. It would be an unsatisfactory account of the matter had there been one single cycle only, so employed, and the fact that there are *three*, makes it wholly inadmissible. But there are more, and even many such proofs, of the use in Scripture by writers ignorant of astronomy, of periods marked out distinctly as cycles, by the less obvious revolutions of the heavenly bodies. This fact, which has we believe never before been demonstrated, is of such importance as enhancing the evidence of the inspiration of Scripture, as to deserve the most careful consideration.

In the following chapters we shall endeavour to unfold the further multiplied, and most remarkable links of connection which we have ourselves discovered, between the chronology. of Scripture, historic and prophetic, and the cycles of soli-lunar revolution.

(To be continued.)